

## REMARKS

Claims 1-18 remain pending in the present application. The Specification has now been amended to update the Cross-Reference to Related Applications paragraph. Minor amendments have been made to all of Claims 1-18 to simply overcome the rejections of the claims under 35 U.S.C. § 112. Such amendments are intended to be of equivalent scope as those originally filed and, thus, not narrowing amendments. The Examiner is respectfully requested to reconsider and withdraw the rejection(s) in view of the amendments and remarks contained herein.

The items raised in the Office Action are addressed below in the order in which they were presented.

## REJECTION UNDER 35 U.S.C. § 112

Claims 1-18 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. The Office Action notes various irregularities in grammar, idioms, and conventions of US patent practice and the Examiner has kindly provided suggestions for correcting these in all pending claims.

Claims 1-18 have now been amended in accordance with the Examiner's suggestions. In particular, "characterized in that" has now been replaced by "wherein" through the claims; in Claim 1 "comprising" has now been substituted for the original ", which uses, as magnesium halide source;" in Claims 2 and 3, "for ethylene polymerization as claimed in" has now been deleted as redundant. Also, in Claims 4 and 16, "as claimed in" is now replaced by "of;" "having a structure represented by" is

now replaced by "of;" "to provide a magnesium compound-loaded silica support" has now been substituted for the original "to give silica loading the magnesium compound;" "the silica loading the magnesium compound as prepared in" has now been replaced by "the magnesium compound-loaded silica support of;" various occurrences of "the [e.g. titanium compound] is used in such an amount that" have now been deleted as redundant; and various occurrences of "where" have been deleted as redundant.

In addition, Claims 1, 5, and 16 have now been amended to replace the non-idiomatic wording (italicized) in the clause "the molar ratio of q to p is *in the range of from larger than 0 to 1*" with "the molar ratio of q to p is *between 0 and 1*." Support for these amendments is found, e.g., in original Claims 1 and 2, 5 and 6, and 16 and 17, and, e.g., at page 3, para. 2, and page 4, para. 1, of the Specification, all of which describe the value of this ratio as falling in the range defined by endpoints of >0 and 1, and which refer to a preferred range of 0.05 to 0.95, falling within that range.

Finally, the "Use" claims, Claims 17 and 18, have now been amended to define a process for ethylene polymerization, in accordance with the Examiner's suggestions. Support for these amendments is found throughout the Specification (see, e.g., page 12, paras. 2-3), the Examples (see, e.g., Example 1, "Polymerization," under subheading 3 at pages 17-18; and Example 10, at pages 23-24), and the original Claims (see, e.g., original Claim 1, which defines a catalyst useful for an "ethylene polymerization" process).

Applicants believe that these amendments overcome the rejection and respectfully request that it be withdrawn.

### **REJECTION UNDER 35 U.S.C. § 102**

Claims 1-3 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Xiao et al. (U.S. Pat. No. 6,303,716), specifically by Xiao et al.'s magnesium compounds demonstrated in Examples 1, 6, and 7 thereof. Applicants point out that Xiao et al. describe a catalyst comprising a magnesium compound of formula  $(RMgX)_p(MgX_2)_q$ , wherein p:q is 0 to 1.0:1.0 (by mole), that is, q:p is equal to or larger than 1 (see, for example, Xiao et al., col. 3, lines 58-66). In the Xiao et al. Examples 1, 6, and 7, the molar p-to-q ratios are 0.3, 0.5, and 0.4, respectively, the magnesium compounds being recited therein using the format " $(MgX_2)_q(RMgX)_p$ ." These values respectively correspond to q-to-p ratios of 3.3, 2, and 2.5.

In contrast, Claim 1 of the present Application, as currently amended herein, claims a catalyst comprising a magnesium halide derived from a magnesium compound of formula  $(RMgX)_p(MgX_2)_q$ , wherein the molar ratio of q to p is between 0 and 1. Similarly, Claim 2 recites a molar ratio of q to p is that is in the range of from 0.05 to 0.95. This is quite different from the 2, 2.5, and 3.3 values utilized in the Examples of Xiao et al. Therefore, Applicants believe that the subject matter defined by the present claims is not anticipated by the cited descriptions of Xiao et al.

Applicants believe that these amendments and remarks overcome the rejection and respectfully request that it be withdrawn.

### **REJECTION UNDER 35 U.S.C. § 103**

Claims 4-18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Föttinger et al (U.S. Pub. No. 2005/0075241) in view of Xiao et al. (U.S. Pat. No.

6,303,716). The rejection asserts that it would have been obvious to one of ordinary skill in the art to have substituted for the magnesium compound of Fottinger et al., a magnesium compound according to Xiao et al., and that this would provide the subject matter of the present invention.

Applicants point out that, in parallel with the discussion of Xiao et al. as applied to Claims 1-3 above, Xiao et al. do not describe or suggest the q:p ratio utilized in the magnesium compound of the present claims, e.g., Claims 4 and 16, as currently amended herein. Apart from the question of whether or not there lacked motivation to combine these references, Fottinger et al. does not provide any description or suggestion that would provide guidance to one of ordinary skill in the art to both combine and modify the subject matter of these references. Fottinger et al. does not suggest decreasing the q:p ratio of Xiao et al., and does not address whether or not doing so could even result in operable subject matter, much less provide a beneficial utility. Thus, because Xiao et al., whether read alone or jointly with Fottinger et al., does not provide what is lacking from Fottinger et al., Applicants respectfully submit that even if there were motivation to combine, doing so would not have provided the subject matter of the present invention.

Therefore, Applicants believe that the present invention would not have been obvious to one of ordinary skill in the art. Applicants believe that these amendments and remarks overcome the rejection and respectfully request that it be withdrawn.

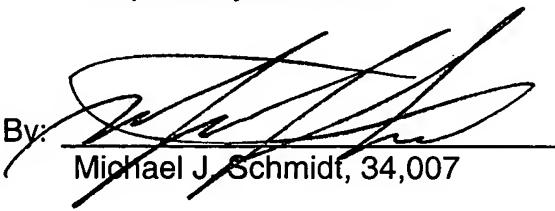
**CONCLUSION**

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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